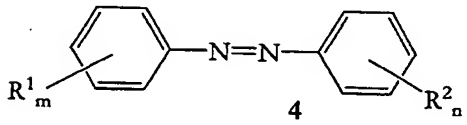
Claims

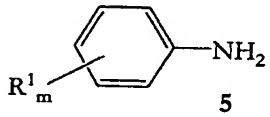
1. A process for the preparation of an aromatic azo-compound 4



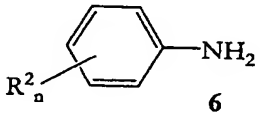
4

or a salt thereof,

comprising the step of treating aromatic amino-compounds 5 and 6



5



6

with (i) hydrogen peroxide and acetic acid, followed by (ii) conc. sulphuric acid, to yield aromatic azo-compound 4 or a salt thereof, wherein

each m and each n is independently 0, 1, 2, 3, 4 or 5, and

each R^1 and each R^2 is independently an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group which may include one or more heteroatoms N, O or S in its carbon skeleton, -F, -Cl, -Br, -I, $-CF_3$, $-CCl_3$, $-CBr_3$, $-CI_3$, -OH, -SH, $-NH_2$, -CN, $-NO_2$, -COOH, $-R^3-O-R^4$, $-R^3-S-R^4$, $-R^3-SO-R^4$, $-R^3-SO_2-R^4$, $-R^3-SO_2-OR^4$, $-R^3O-SO_2-R^4$, $-R^3-SO_2-N(R^4)_2$, $-R^3-NR^4-SO_2-R^4$, $-R^3O-SO_2-OR^4$, $-R^3O-SO_2-N(R^4)_2$, $-R^3-NR^4-SO_2-OR^4$, $-R^3-NR^4-SO_2-N(R^4)_2$, $-R^3-N(R^4)_2$, $-R^3-N(R^4)_3^+$, $-R^3-P(R^4)_2$, $-R^3-Si(R^4)_3$, $-R^3-CO-R^4$, $-R^3-CO-OR^4$, $-R^3O-CO-R^4$, $-R^3-CO-N(R^4)_2$, $-R^3-NR^4-CO-R^4$, $-R^3O-CO-OR^4$, $-R^3O-CO-N(R^4)_2$, $-R^3-NR^4-CO-OR^4$, $-R^3-NR^4-CO-N(R^4)_2$, $-R^3-CS-R^4$, $-R^3-CS-OR^4$, $-R^3O-CS-R^4$, $-R^3-CS-N(R^4)_2$, $-R^3-NR^4-CS-R^4$, $-R^3O-CS-OR^4$, $-R^3O-CS-N(R^4)_2$, $-R^3-NR^4-CS-OR^4$ or $-R^3-NR^4-CS-N(R^4)_2$, all optionally protected, wherein

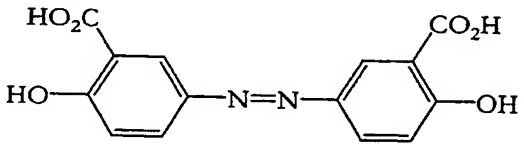
each $-R^3-$ is independently a chemical bond, a C_1-C_{10} alkylene, C_1-C_{10} alkenylene or C_1-C_{10} alkynylene group, and

each $-R^4$ is independently hydrogen, unsubstituted C_1-C_6 alkyl or unsubstituted C_6-C_{10} aryl.

2. A process as claimed in claim 1, wherein the aromatic amino-compounds **5** and **6** are the same and together form a symmetric aromatic azo-compound **4**.

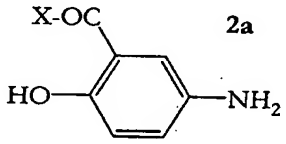
3. A process as claimed in claim 1, wherein the aromatic amino-compounds **5** and **6** are different and together form an asymmetric aromatic azo-compound **4**.

4. A process for the preparation of 3,3'-azo-bis(6-hydroxybenzoic acid) **1**



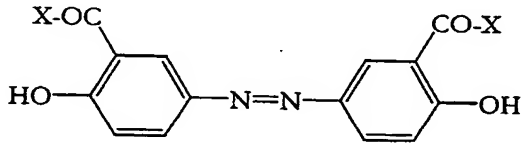
1

or a salt or derivative thereof, comprising the step of treating a 5-amino salicyclic acid derivative **2a**



2a

or a salt or derivative thereof, with (i) hydrogen peroxide and acetic acid, followed by (ii) conc. sulphuric acid, to yield a 3,3'-azo-bis(6-hydroxybenzoic acid derivative) **1a**



1a

or a salt or derivative thereof, wherein

X is OR, SR or $N(R)_2$,

when X is OR or SR, R is independently an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group which may include one or more heteroatoms N, O or S in its carbon skeleton, hydrogen, $-Si(alkyl)_3$ or $-Sn(alkyl)_3$, and

when X is $N(R)_2$, each R is independently an optionally substituted alkyl, alkenyl, alkynyl, aryl, arylalkyl, arylalkenyl, arylalkynyl, alkylaryl, alkenylaryl or alkynylaryl group which may include one or more heteroatoms N, O or S in its carbon skeleton, hydrogen, $-SO_2$-(aryl), $-NH_2$, -NH(alkyl) or -NH(aryl), or both R together form an optionally substituted cycloheteroalkyl, cycloheteroalkenyl or heteroaryl group.

5. A process as claimed in claim 4, wherein X is OR and R is an optionally substituted alkyl, aryl or arylalkyl group.

6. A process as claimed in claim 5, wherein X is OR and R is an unsubstituted alkyl group.

7. A process as claimed in claim 6, wherein X is OR and R is an unsubstituted C_1-C_6 alkyl group.

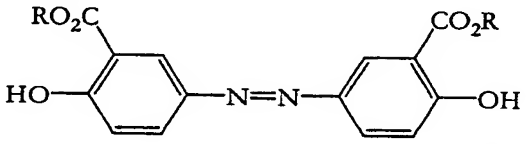
8. A process as claimed in claim 7, wherein X is OR and R is methyl.

9. A process as claimed in claim 5, wherein X is OR and R is an optionally substituted arylalkyl group.

10. A process as claimed in claim 9, wherein X is OR and R is benzyl.

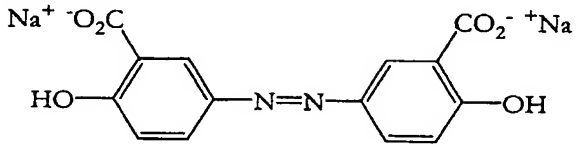
11. A process as claimed in claim 4, further comprising a step of deprotecting the 3,3'-azo-bis(6-hydroxybenzoic acid derivative) **1a** to yield 3,3'-azo-bis(6-hydroxybenzoic acid) **1** or a salt or other derivative thereof.

12. A process as claimed in claim 11, wherein X is OR, and a 3,3'-azo-bis(6-hydroxybenzoic acid ester) **1b**



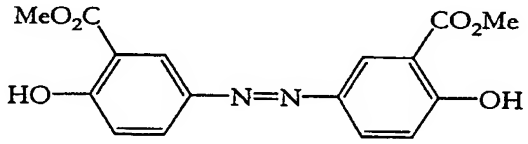
1b

is deprotected with sodium hydroxide to yield the disodium salt **1d** of 3,3'-azo-bis(6-hydroxybenzoic acid)



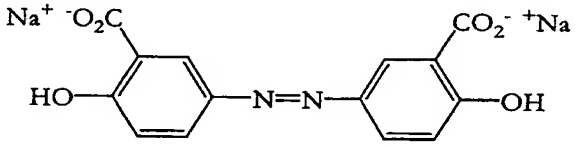
1d

13. A process as claimed in claim 12, wherein X is OR, both R are methyl, and a dimethyl-3,3'-azo-bis(6-hydroxybenzoate) **1c**



1c

is deprotected with sodium hydroxide to yield the disodium salt **1d** of 3,3'-azo-bis(6-hydroxybenzoic acid)



1d

14. 3,3'-Azo-bis(6-hydroxybenzoic acid) **1** or a salt or derivative thereof, obtained by a process as claimed in claim 4.

15. Disodium salt **1d** of 3,3'-azo-bis(6-hydroxybenzoic acid), obtained by a process as claimed in claim 4.

16. A pharmaceutical composition, comprising 3,3'-azo-bis(6-hydroxybenzoic acid) **1** or a salt or derivative thereof as claimed in claim 14 and a pharmaceutically acceptable carrier or diluent.

17. A method of treating an inflammatory disease, comprising administering a pharmaceutically effective amount of 3,3'-azo-bis(6-hydroxybenzoic acid) **1** or a salt or derivative thereof as claimed in claim 14, to a subject in need of such treatment.

18. A method as claimed in claim 17, wherein the inflammatory disease is ulcerative colitis.